



10001605-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of :
G. F. Schmeling et al. : Group Art Unit 2131
Serial No. 09/784,116 : Examiner: L. Chai
Filed: February 14, 2001 : Date: September 15, 2004
For: SYSTEM AND METHOD FOR :
PROVIDING CUSTOMIZED ... :

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SEP 27 2004

Technology Center 2100

AFFIDAVIT UNDER 37 C.F.R. 1.131

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

We, Garth F. Schmeling and Darrel D. Cherry, hereby declare that we are the inventors of the SYSTEM AND METHOD FOR PROVIDING CUSTOMIZED SECURE ACCESS TO SHARED DOCUMENTS disclosed and claimed in the above-identified Patent Application.

Enclosed herewith is a copy of the invention disclosure, which shows that the invention was conceived by us before February 24, 2000. We worked diligently on the invention as evidenced by our filing of a Patent Application on February 14, 2001.

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DCCS M



INVENTION DISCLOSURE

PAGE ONE OF 6

PDNO 10001605

DATE RCVD Jan. 5, 2000

ATTORNEY LGW

Instructions: The information contained in this document is **COMPANY CONFIDENTIAL** and may not be disclosed to others without prior authorization. Submit this disclosure to the HP Legal Department as soon as possible. No patent protection is possible until a patent application is authorized, prepared, and submitted to the Government.

Descriptive Title of Invention:

Customized, Secure Access to Shared Documents.



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DEC 16 1999

Name of Project: Diamondback

Product Name or Number:

H. P. BOISE LEGAL

Was a description of the invention published, or are you planning to publish? If so, the date(s) and publication(s): No.

Was a product including the invention announced, offered for sale, sold, or is such activity proposed? No. If so, the date(s) and location(s):

Was the invention disclosed to anyone outside of HP, or will such disclosure occur? No. If so, the date(s) and name(s):

If any of the above situations will occur within 3 months, call your IP attorney or the Legal Department now at 1-857-2542 or 415-857-2542

Was the invention described in a lab book or other record? If so, please identify (lab book #, etc.)

Yes. Lab book # 1146, project # 19, pages 47 - 49.

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Was the invention built or tested? If so, the date: No.

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Was this invention made under a government contract? No. If so, the agency and contract number:

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Description of Invention: Please preserve all records of the invention and attach additional pages for the following. Each additional page should be signed and dated by the inventor(s) and witness(es).

- A. Prior solutions and their disadvantages (if available, attach copies of product literature, technical articles, patents, etc.).
- B. Problems solved by the invention.
- C. Advantages of the invention over what has been done before.
- D. Description of the construction and operation of the invention (include appropriate schematic, block, & timing diagrams; drawings; samples; graphs; flowcharts; computer listings; test results; etc.)

Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: [Dec 15, 1999].

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(If more than four inventors, include additional information on another copy of this form and attach to this document)

Signature of Inventors:

Garth F. Schmeling

Name

Garth F. Schmeling
Signature

DEC 14, 1999

Date

Darrel D. Cherry

Name

Darrel D. Cherry
Signature

12/14/1999

Date

Signature of Witness:

Daniel J. Dyer

Name

Daniel J. Dyer
Signature

12/14/99

Date

Description of Invention: Please preserve all records of the invention and attach additional pages for the following. Each additional page should be signed and dated by the inventor(s) and witness(es).

A. Prior solutions and their disadvantages (if available, attach copies of product literature, technical articles, patents, etc.).

There are other document management systems that allow multiple users to view a shared document. However, none of these solutions provide document encryption where the encryption is accomplished on the client machine and the document is transferred to the information management system in a secure, encrypted form. None of these other solutions use digital signatures to verify that the person who wants access to the shared document is allowed that access, and none of them provide a customized view of the document that is customized to the individual trying to access the document. Further, no other product provides a complete audit trail of accesses, modifications, and process approvals or disapprovals. This solution does.

B. Problems solved by the invention.

1. Verification, using digital signatures, of an individual's authority to submit documents, access documents, modify documents or view the history of these operations on a document.
2. Secure submission of documents to an information management system.
3. Secure viewing of documents from an information management system.
4. Customizing the view of a document to the individual and to the individual's access rights.
5. Secure modification of documents.
6. Tracking submission, accesses and modifications to a document.

C. Advantages of the invention over what has been done before.

1. The primary advantage is that processes involving documents are automated. This increases efficiency.
2. Individuals' access rights are checked before they can submit, view or modify documents. The software agent checks the user's digital signature before allowing the user to submit, view or modify a document. For example, only the doctor has the right to submit the prescription form and only the pharmacist has the right to view it. The state pharmacy board has the right to audit the process and see what happened.
3. The documents remain encrypted while they are stored in the information management system and while they are being submitted to or are being downloaded from the information management system. This guarantees that they can not be tampered with while they are stored in the information management system or that they cannot be viewed, even if they are intercepted while being downloaded from the information management system to the client machine.
4. Other systems do not provide a customized view of a document. Individuals view the whole thing or nothing. This invention provides a view of a document customized to the individual. For example, a document could be added that describes a new printer and its associated software. One view of the document, appropriate for engineers, would show all the technical details of the printer and the software. A separate view, appropriate for technical writers, would show the user interface and user commands so they could write the printer's manuals.
5. Other systems do not maintain an audit trail of submission, accesses and modifications to a document. This system does. The advantage of this is that an analysis may be done on how efficient and effective work processes are. For example, an analysis may be done on who submits the most work orders and how quickly individual workers process them.

D. Description of the construction and operation of the invention (include appropriate schematic, block, & timing diagrams; drawings; samples; graphs; flowcharts; computer listings; test results; etc.)

The attached pages from the lab notebook describe the construction and operation of the invention.

Form Page No. _____

One aspect of workflow automation is how documents should be viewed in a manner that is both secure, customized to the individual viewing & modifying the document, and maintains an audit-trail of changes to the document.

This solution contains the following components:

- an information management system with folders.
- Agents, software programs associated with folders, that perform tasks in behalf of users when an event happens in the associated folder. Examples of events are "document added", "document deleted", "request for view", etc.
- a document viewing program, for example a web browser.
- users with specified privileges to view, make comments, approve, disapprove & ~~not~~ track changes to documents.
- documents that need to be viewed or approved, for example, a request to purchase or make an order.
- applets, software programs that may be downloaded to a client machine and execute in the client machine browser.

Secure Document Submittal

The first step in secure document access is to submit the document in a secure manner to the information management system. This is accomplished by:

1. The user browses to the appropriate folder in the information management system and selects the "submit" item menu option.
2. The user indicates the document to be submitted. For example, the user would indicate that he or she wanted to submit a secure purchase order request.
3. The agent associated with the ~~purchase order~~ ^{for} folder would download an applet to the client machine. This ~~agent~~ ^{applet} would encrypt the document and load it back up to the agent. It would be stored in the associated folder. In this example, it would be stored in the purchase order folder.
4. The document has been submitted in a secure manner to the information management system and is stored in a secure manner in it.

Authentication of Submitters

As part of secure document submittal, the agent checks the authentication of the submitter to be certain that he or she is authorized to make document

To Page No. 48

Witnessed & Understood by me.

Date

Invented by

Date

12/13/99

Recorded by

Dec 10, 1999

TITLE Workflow automation: securing shared documents

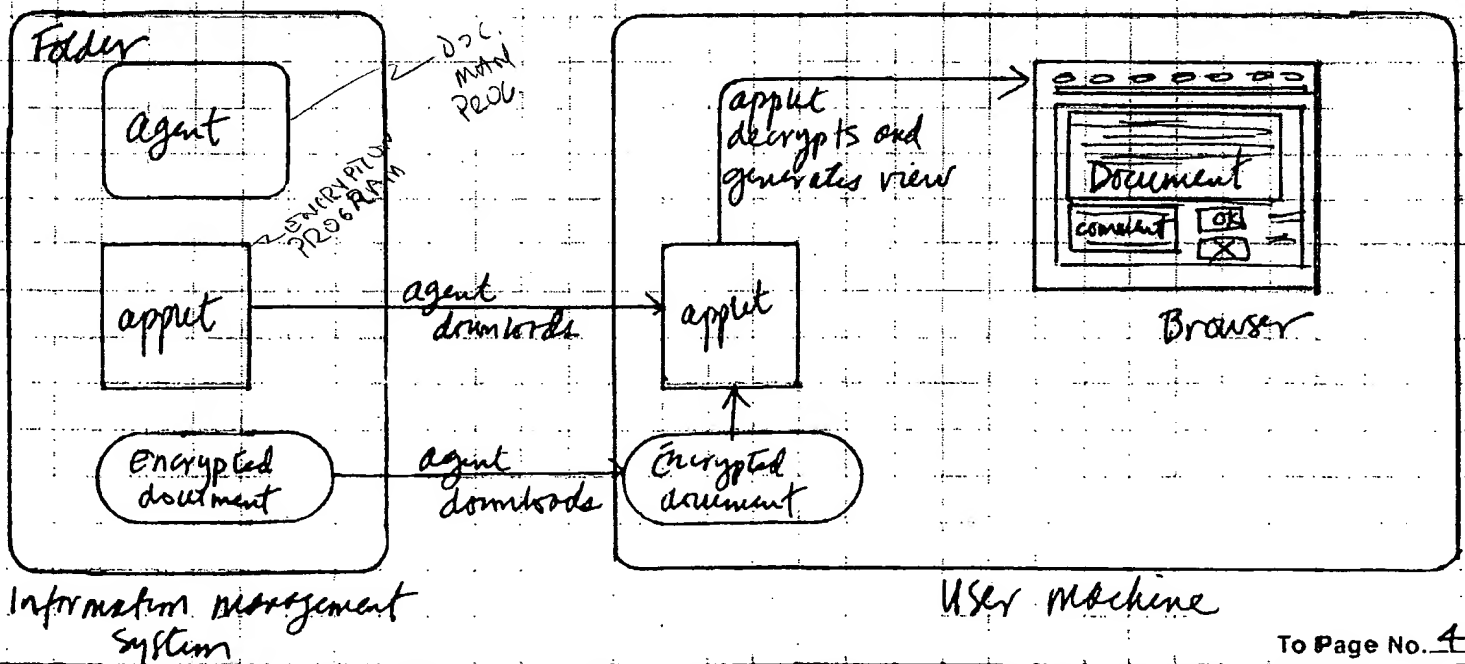
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submittals. one way of checking authentication is to check the digital signature of the submitter. This is accessible through the web browser, among other ways.

Customized, Secure Document View

Customized, secure access to shared documents can be achieved in the following manner:

1. The user browses to the appropriate folder in the information management system and selects the view option.
2. The agent associated with the folder checks that the user is authenticated to view the document. If the user is not authenticated, it logs the attempt as a tag in the document and prevents the user from viewing it. If the user is authorized the process continues.
3. The agent downloads the document (which is encrypted) to the user's machine and also downloads an applet to the user's machine.
4. The applet decrypts the document and generates a view that is specific to the user. This view would include the original document, any previous comments the user made, a means of submitting new comments and any other processing commands specific to the user. An example of this would be "Document Approval" by the user. This flow is described in the following diagram:

To Page No. 49

Witnessed & Understood by me.

Date

Invented by

Date

Neal D. Sme

12/13/99

Recorded by

Gardner Schumaker

Dec 10, 1999